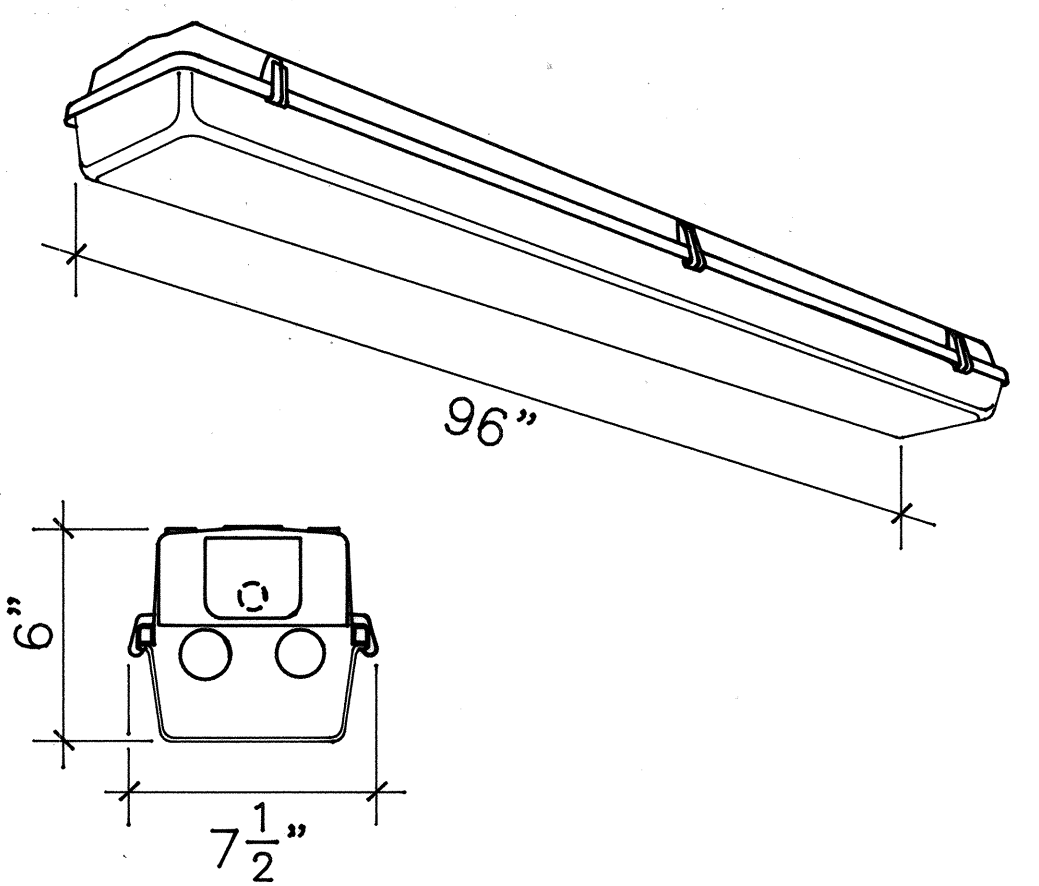


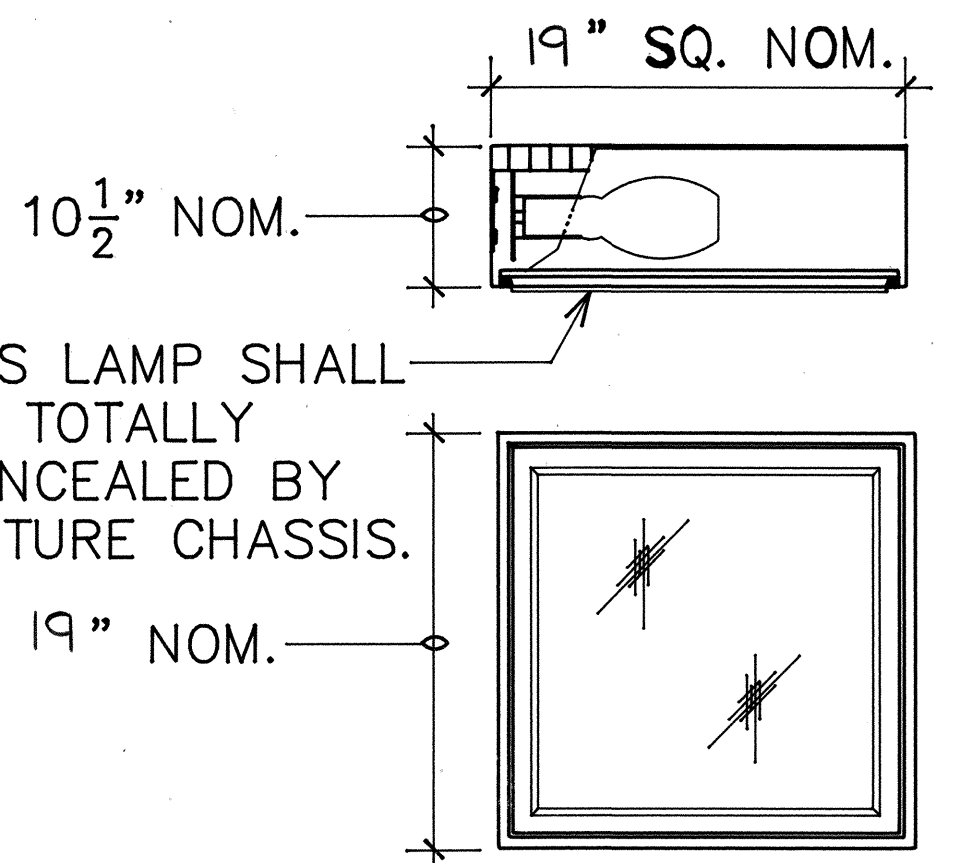


LAMPS: 2-60W, 8'-0" FLUOR., SLIMLINE, COOL WHITE.

DESCRIPTION: ABS PLASTIC ENCLOSURE, ENCLOSED AND GASKETED, U.L. LISTED FOR WET LOCATIONS, 120V, HPF INSTANT START BALLAST.

LAMP: 1-60W, 8'-0" FLUOR., SLIMLINE, COOL WHITE.

DESCRIPTION: SIMILAR TO TYPE "A", EXCEPT 1-LAMP.



LAMP: 250W, HPS, CLR. GLOBE, 55V.

DESCRIPTION: U.L. LISTED FOR WET LOCATIONS, STEM MTD., 240V, 1-PHASE, CWA OR AUTO REGULATOR, HPF BALLAST, EXTRUDED AL. CHASSIS, WITH ANODIZED FINISH, HINGED, TEMPERED GLASS REFRACTOR WITH STAINLESS STEEL SCREWS, SINGLE PIECE AL. REFRACTOR WITH IES TYPE III CUT-OFF OPTICS. BOTH LAMP AND BALLAST SHALL BE ACCESSIBLE THRU BOTTOM OF FIXTURE. PROVIDE IN-LINE FUSE FOR UNDERGROUND CONDUCTOR, FIXTURE SHALL BE GASKETED WITH FILTERED AIR FLOW.

PANEL "A" SCHEDULE									
240V, 3-PH., 3W SURF. MTD. 10,000 A.I.C. 400 A LUGS ONLY INDUSTRIAL-BOLTED									
CKT. NO.	BREAKERS	USE: L-TLS, R-RCPT, S-SPARE	PFB-PROVISION FOR FUTURE BREAKERS	KVA ON BUSSES			WIRE SIZE		
				A	B	C			
1	3	50	L - 1080' TUNNEL	4.2	4.2	3.9	4		
2	3	40							
3	3	40	L - 1080' TUNNEL	3.6	3.6	3.6	4		
4	3	40	L - 1080' TUNNEL	3.6	3.6	3.6	4		
5	3	30							
6	3	30	L - 1000' TUNNEL	3.3	3.3	3.0	4		
7	3	30	L - 1000' TUNNEL	3.0	3.0	3.0	4		
8	3	30	L - 1000' TUNNEL	3.0	2.7	2.7	4		
TOTALS				20.7 20.4 19.8					
CONNECTED KVA				60.9					
DEMAND FACTOR				1.0					
DEMAND KVA				60.9					

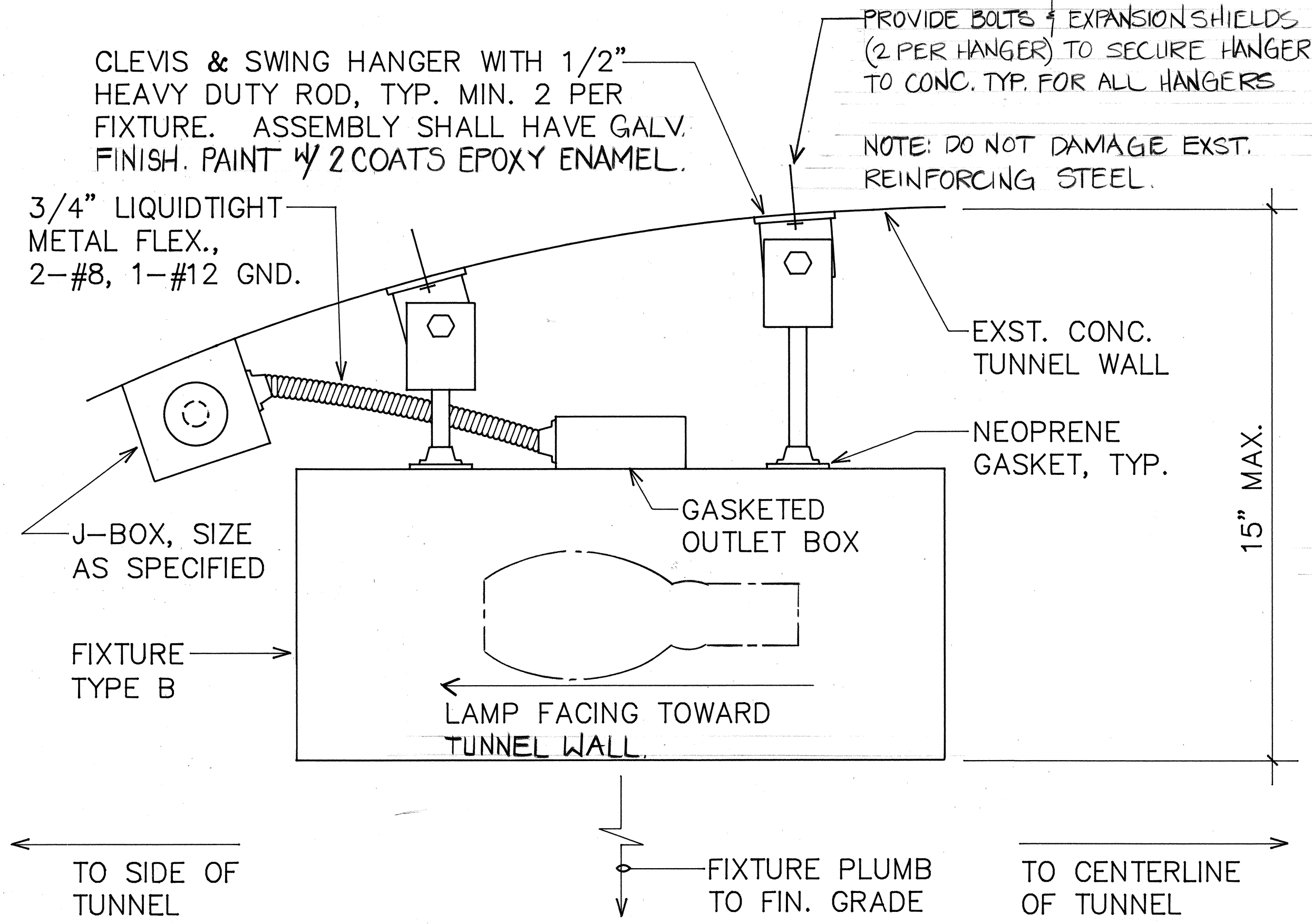
PANEL "PWR" SCHEDULE									
120/240V, 1-PH., 3W SURF. MTD. 10,000 A.I.C. 2P50A MAIN BKR. INDUSTRIAL-BOLTED									
CKT. NO.	BREAKERS	USE: L-TLS, R-RCPT, S-SPARE	PFB-PROVISION FOR FUTURE BREAKERS	KVA ON BUSSES			WIRE SIZE		
				L1	L2				
1	1	20	R - ELEC. ROOM	1.0			12		
2	1	20	L - ELEC. ROOM	0.5			12		
3	1	20	PHOTOCELL		1.0		12		
4	1	20	CONTROL RELAY #1		1.7		12		
5	1	20	CONTROL RELAY #2		1.7		12		
6	2	50	PANEL "C" FEEDER	2.0	2.0		4		
7	1	20	S						
8	1	20	S						
9			PFB						
10			PFB						
11			PFB						
12			PFB						
TOTALS				5.2 4.7					
CONNECTED KVA				9.9					
DEMAND FACTOR				0.5					
DEMAND KVA				4.9					

PANEL "B" SCHEDULE									
240V, 3-PH., 3W SURF. MTD. 10,000 A.I.C. 400 A LUGS ONLY INDUSTRIAL-BOLTED									
CKT. NO.	BREAKERS	USE: L-TLS, R-RCPT, S-SPARE	PFB-PROVISION FOR FUTURE BREAKERS	KVA ON BUSSES			WIRE SIZE		
				A	B	C			
1	3	30							
2	3	30	L - 496' TUNNEL	3.3	3.3	3.3	6		
3	3	30	L - 496' TUNNEL	3.6	3.6	3.3	6		
4	3	30	L - 496' TUNNEL	3.3	3.3	3.3	6		
5	3	30							
6	3	30	L - 500' TUNNEL	2.7	2.7	2.7	6		
7	3	30	L - 500' TUNNEL	3.0	3.0	3.0	6		
8	3	30	L - 500' TUNNEL	2.7	2.7	2.7	6		
TOTALS				18.3 18.3 18.3					
CONNECTED KVA				54.9					
DEMAND FACTOR				1.0					
DEMAND KVA				54.9					

PANEL "NTLT" SCHEDULE									
240V, 3-PH., 3W SURF. MTD. 10,000 A.I.C. 100A LUGS ONLY INDUSTRIAL-BOLTED									
CKT. NO.	BREAKERS	USE: STLT-STREET LIGHT, NL-NIGHT LIGHT, PFB-PROVISION FOR FUTURE BREAKERS	KVA ON BUSSES			WIRE SIZE			
			A	B	C				
1	2	20							
2	2	20	STLT-BTWN. TUNNELS	0.7	0.7		8		
3	2	20	NL-1000' TUNNEL		2.0	2.0	4		
4	2	20	NL-500' TUNNEL		1.2	1.2	4		
5	2	30	NL-1080' TUNNEL	2.1		2.1	6		
6	2	20	NL-496' TUNNEL	1.0		1.0	6		
7	2	20							
8	2	20							
9									
10									
TOTALS				3.8 3.9 6.3					
CONNECTED KVA				14.0					
DEMAND FACTOR				1.0					
DEMAND KVA				14.0					

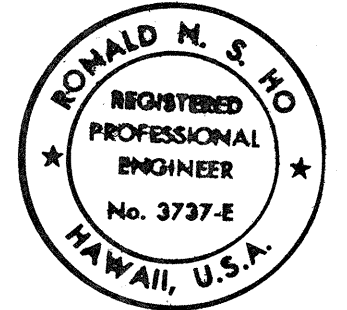
PANEL "C" SCHEDULE									
120/240V, 1-PH., 3W SURF. MTD. 10,000 A.I.C. 2P50A MAIN BKR. INDUSTRIAL-BOLTED									
CKT. NO.	BREAKERS	USE: L-TLS, R-RCPT, S-SPARE	PFB-PROVISION FOR FUTURE BREAKERS	KVA ON BUSSES			WIRE SIZE		
				L1	L2				
1	1	20	L & R - GND. FLR.	0.5			12		
2	1	20	S						
3	1	20	L & R - GND. FLR.		0.5		12		
4	1	20	S						
5	2	20	HNL ST. LT.	1.0	1.0		8		
6	1	20	TRANSMITTER	1.0			12		
7	1	20	TRANSMITTER		1.0		12		
8			PFB						
9			PFB						
10	2	50	MAIN BKR.						
TOTALS				2.5 2.5					
CONNECTED KVA				5.0					
DEMAND FACTOR				0.8					
DEMAND KVA				4.0					

PANEL "NTLT-2" SCHEDULE									
240V, 3-PH., 3W SURF. MTD. 10,000 A.I.C. 200A LUGS ONLY INDUSTRIAL-BOLTED									
CKT. NO.	BREAKERS	USE: NL-NIGHT LIGHT	KVA ON BUSSES			WIRE SIZE			
			A	B	C				
1	3	40	NL-1080' TUNNEL	4.2	4.2	4.2	4		
2	3	30	NL-1000' TUNNEL	3.2	3.2	3.2	4		
3	3	30	NL-496' TUNNEL	2.7	2.7	2.7	6		
4	3	30	NL-500' TUNNEL	3.2	3.2	3.2	6		
TOTALS				13.3 13.3 13.3					
CONNECTED KVA				39.9					
DEMAND FACTOR				1.0					
DEMAND KVA				39.9					



LIGHT FIXTURE MOUNTING DETAIL
NOT TO SCALE

SURVEY PLOTTED BY _____ DATE _____
DRAWN BY _____
DESIGNED BY _____
CHECKED BY _____
ORIGINAL PLAN _____
NOTE BOOK _____
No. _____



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
Ronald M. S. Ho
12/20/87

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PANEL & FIXTURE SCHEDULES

PALI HIGHWAY TUNNELS
HIGHWAY LIGHTING IMPROVEMENTS
PROJECT NO. 61D-01-85

SCALE: NONE DATE: JUL., 1987

SHEET No. 23 OF 29 SHEETS

3/7/91
DATE
ADDED PANEL "NTLT-2"
REVISED EXIST. PANELS
REVISION